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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/664,968	09/22/2003	Kumiko Takikawa	H-963-02	4980

24956 7590 11/03/2004

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EXAMINER	
NGUYEN, DANNY	

ART UNIT	PAPER NUMBER
2836	

DATE MAILED: 11/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/664,968	TAKIKAWA ET AL.	
	Examiner	Art Unit	
	Danny Nguyen	2836	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 September 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *12-31* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *12-31* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☒ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *9/22/03*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. The rejections are based on the preliminary amendment filed 09/29/2003

Drawings

2. Figures 9-12, 13A, 13B should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.121(d)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 12-14, 17-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art (APA) in view of Bando et al (USPN 6,700,792), and Bowyer et al (USPN 6,313,874).

Regarding claims 12-14, 27-31, APA discloses a communication semiconductor integrated circuit device (see fig. 9, and 10) comprises a transmission unit (11-17, see

the background, page 3, lines13-17), and forming a transmission signal to be provided to an antenna (1); a reception unit (3-9) formed on the semiconductor chip, and receiving a receiving signal from the antenna and forming a signal which has a frequency lower than that of the receiving signal, wherein the reception unit includes a low noise amplifier (4) receiving the receiving signal; a terminal (45) formed on the semiconductor chip; first voltage line arranged to be supplied with a first voltage having first potential (such as Vcc shown in fig. 10); second voltage line arranged to be supplied with a second voltage (such as ground potential shown in fig. 10) having a second potential that is different from the first potential; and protection unit formed on the semiconductor chip (such as protection circuit 41 shown in fig. 10), and coupled to the first voltage line (Vcc), to the second voltage line (ground) and the terminal (45), wherein the protection unit includes a first protection circuit (42) which is coupled between the first voltage line (Vcc) and the terminal (45) and which allows an electric current to flow from the first voltage line to the terminal at a protection time against an electrostatic breakdown, and a second protection circuit (43) which is coupled between the second voltage line (ground) and the terminal and which allows an electric current to flow from the terminal to the second voltage line at a protection time against an electrostatic breakdown. APA does not disclose the low noise amplifier (LNA) is a LNA transistor. Bando discloses a communication system discloses a receiver unit comprises a LNA transistor for receiving the signal from the antenna (shown in fig. 1 and 9). It would have been of obvious to one of ordinary skill in the art at the time the invention was made to have modified to LNA of APA to incorporate the LNA transistor

as disclosed by Bando in order to provide higher output impedance of LNA. However, the combination of APA and Bando do not teach the protection circuit as claimed. Bowyer discloses a communication system (fig. 2) comprises an ESD protection circuit (122) is connected to the low noise amplifier (124) (see col5 and 6, lines 59-8). It would have been of obvious to one of ordinary skill in the art at the time the invention was made to have modified to system of APA and Bando to incorporate the ESD protection circuit which is coupled to the LNA as disclosed by Bowyer in order to protect the receiver from ESD event.

Regarding claims 17-20, APA discloses the first and second protection circuits include MOSFET (such as MOSFET transistor 42, 43).

Regarding claim 21-23, APA discloses the second potential (ground) is lower that the first potential (Vcc) (for positive ESD event, see fig. 10).

Claims 24-26 recite the first potential is lower than the second potential (for negative ESD event) (fig. 10).

4. Claims 15, 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art (APA) in view of Bando et al, Bowyer et al, and Lu (USPN 4,989,057). The combination of APA, Bando, and Bowyer discloses all limitations of claim 12, but do not disclose the protection unit comprises third and fourth protection circuits as claimed. Lu discloses an ESD protection circuit (fig. 3) comprises third and fourth ESD protection circuits (62, 64), wherein the third protection circuit is coupled between the first voltage line (48) and the terminal (44), and the fourth circuit (64) is

coupled between the second voltage line (52) and the terminal (44). It would have been of obvious to one of ordinary skill in the art at the time the invention was made to have modified to the protection unit of APA, Bando, and Bowyer to incorporate the ESD protection circuit which include the third and the fourth protection circuits as taught by Lu in order to improve ESD protection (col. 2, lines 7-17).

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Danny Nguyen whose telephone number is (571)-272-2054. The examiner can normally be reached on Mon to Fri 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Sircus can be reached on (571)-272-2058. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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10/21/2004

BRIAN SIRCUS
SUPERVISORY PATENT EXAMINER
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